IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/517,818

Inventors: Ran Oz, et al.

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Art Unit: 2614

Examiner: Ma, Johnny

Confirmation No.: 4951

Commissioner for Patents
P.O. Box 1450
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REPLY BRIEF

Sir:

This Reply Brief is submitted in response to the Examiner's Answer mailed August 28, 2006, and in support of an appeal from a final decision of the Examiner, mailed March 13, 2006. Consideration of this appeal by the Board of Patent Appeals and Interferences for allowance of the above-captioned patent application is respectfully requested.

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I. REAL PARTY IN INTEREST

The real party in interest is BigBand Networks, Inc., a corporation of Delaware having a place of business at 475 Broadway, Redwood City, CA 94063.

II. RELATED APPEALS AND INTERFERENCES

This application was previously the subject of an appeal (Notice of Appeal filed Oct. 14, 2003), which was dismissed prior to decision as a result of issuance of an Office Action dated March 29, 2004.

III. STATUS OF CLAIMS

Claims 1, 4, 6 and 9-22 have been cancelled. Claims 2, 3, 5, 7, 8 and 23-39 are currently pending, have been finally rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

There are no currently pending amendments.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claim 23 reads as follows:[1]

> A method, comprising:
>
> periodically downloading (402, 404) from a server (102) selected data sets according to user profile information, the selected data sets representing information elements for display to a user during switching events (406);
>
> displaying (408) a first one of the information elements in response to initiation of a first switching event (406), the first switching event being characterized by unavailability of information from the server for display; and
>
> discontinuing the display of the first one of the information elements and displaying the data stream information from the server when it becomes available for such display (418), unless the user has initiated an interactive transaction session (410) with a remote host by selecting an interactive element associated with the first one of the information elements in which case displaying the data stream information from the server is delayed (412) until termination of the interactive transaction session or expiration of a predetermined period of inactivity by the user (416).

[1] Reference numbers as used in the drawings have been inserted in accordance with 37 C.F.R. § 41.37(c)(1)(v). The use of such reference numbers should in no way be read as limiting the claim to the illustrated embodiment.

As indicated by this claim, the present invention relates to methods for displaying information to a viewer during so-called "zap times" (i.e., times between channel changes during which information from the server is unavailable for display). The information so displayed during these "zap times" can include, for example, advertising information; information about the next/target program or channel selected; a window showing a segment of the target program that is transmitted over the target channel; personal information associated with the viewer (e.g., notification that one or more electronic mail messages have arrived, stock prices of securities in the viewer's portfolio, etc.) , etc.

The information to be displayed during a zap time is selected based on the viewer's profile (e.g., recipes for cooking enthusiasts, news clips from preferred sources, advertisements of particular interest, etc.) and stored in a set top box. In response to a channel change, the zap page is displayed until the new channel information is ready for display.

In some cases a zap page includes interactive elements that allow the viewer to request additional data. When such interactive elements are involved and the user initiates an interactive session by selecting such an element, the regular channel information is not displayed until that session is complete or times out. Specification at p. 2, ll. 5-21; p. 3, ll. 2-13 and 15-22.

Claim 31 reads as follows:

> A system, comprising:
>
> a server (102) configured to provide a data stream transmission; and
>
> a digital set top box (106) configured to (i) periodically download from the server (102) selected data sets according to user profile information, the selected data sets being included within the data stream and representing information elements for display to a user (110) during switching events; (ii) display a first one of the information elements in response to initiation of a first switching event, the first switching event being characterized by unavailability of information from the server (102) for display; and (iii) discontinue the display of the first one of the information elements and displaying the data stream information from the server (102) when it becomes available for such display, unless the user (110) has initiated an interactive transaction session with a remote host by selecting an interactive element associated with the first one of the information elements in which case displaying the data stream information from the server (102) is delayed until termination of the interactive transaction session or expiration of a predetermined period of inactivity by the user (110).

As indicated by this claim, the present invention relates to systems for displaying information to a viewer during so-called "zap times". Generally, the elements supporting the operation of the invention include a server, a data source, a network, a receiver, a display device, an input device and a viewer of the display device.

The information to be displayed during a zap time is selected and downloaded from the server based on the viewer's profile (e.g., recipes for cooking enthusiasts, news clips from preferred sources,

advertisements of particular interest, etc.) and stored in a set top box. In response to a channel change, the zap page is displayed until the new channel information is ready for display.

In some cases a zap page includes interactive elements that allow the viewer to request additional data. When such interactive elements are involved and the user initiates an interactive session by selecting such an element, the regular channel information is not displayed until that session is complete or times out. Specification at p. 7, ll. 10-17; p. 8, ll. 3-7.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 23, 2, 3, 7, 8, 24-27, 29-31 and 34-39 stand rejected under 35 USC 103(a) as allegedly being unpatentable over Grossman et al. (US 5,907,321) in view of Tsuria (US 5,786,845), Picco et al. (US 6,029,045), and Howe et al. (US 5,892,508).

Claims 5, 32, and 33 stand rejected under 35 USC 103(a) as allegedly being unpatentable over Grossman in view of Tsuria, Picco, Howe and Nathan et al. (US 6,182,126).

Claim 28 stands rejected under 35 USC 103(a) as allegedly being unpatentable over Grossman in view of Tsuria, Picco, Howe and Kitsukawa et al. (US 6,282,713).

VII. ARGUMENT

A. The combination of Grossman, Tsuria, Howe and Picco does not yield the present invention.

It is well established that in order for a claim to be rendered obvious, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Independent claims 23 and 31 have been rejected as obvious in view of the combination of Grossman, Tsuria, Howe and Picco. Both claims 23 and 31 involve ***downloading selected data sets, according to user profile information, for display to a user during switching events***. Neither Grossman, Tsuria, nor Howe describe or suggest the above limitation. In the Office Action, the Examiner states:

> The claimed "downloading from a server selected data sets according to user profile information" is met by "the pieces of local content downloaded to the set-top box may have a plurality of different content profiles and only the pieces of local content with content profiles that match some predetermined criteria [such as user preferences] stored in the set-top box are stored in the set-top box" (Picco 8:10-15; 6:23-24). (Office Action mailed March 13, 2006).

The passages (e.g., Picco 8:10-15; 6:23-24) cited by the Examiner do not explicitly teach or disclose the above limitation. According to Picco, a content profile is associated with the content. A content profile is not a user profile. Furthermore, according to Picco, content is streamed to a set top box, and only after it

arrives at the set top box, does the set top box determine, based on content profiles, which content is to be stored at the set top box. This results in the unnecessary downloading or streaming of content to the set top box and does not amount to ***downloading selected data sets, according to user profile information, for display to a user during switching events***. Moreover, according to Picco, the pieces of local content stored at the set top box are to be inserted into a programming data stream. In contrast, the selected data sets referred to in claims 23 and 31 are to be ***displayed during switching events***. Therefore, for at least these reasons, Appellants submit that the cited passages from Picco do not disclose the above limitation. Consequently, Appellants submit that the cited passages do not "meet" (as the Examiner has suggested) the above limitation.

Appellants further submit that Picco, by itself or in combination with Grossman, Tsuria, and/or Howe, does not ***suggest*** the above limitation. With the exception of the passage from the Office Action cited above, the Examiner has provided no evidence, basis, or reasoning providing an explanation as to how the references, if combined, suggest the above limitation. As described in greater detail below, the Examiner cites a passage from Picco (e.g., Picco 2:62-67), which the Examiner alleges supports the combination of Picco and Grossman and/or Tsuria. However, the cited passage certainly does not suggest the above limitation, and the Examiner has provided no further evidence or reasoning to explain how the combination of references suggests the above limitation. Hence, claims 23 and 31, and their respective dependent claims are patentable over this combination of references.

B. There is no suggestion or motivation to combine Picco, directed at permitting a broadcaster to deliver localized content to be inserted into the programming data, with Grossman and/or Tsuria, each directed at schemes for displaying information during channel changing intervals.

As stated above, the Examiner has proposed that the combination of Picco with Grossman and/or Tsuria teaches or suggests ***downloading selected data sets, according to user profile information, for display to a user during switching events***, as is claimed in claims 23 and 31. Appellants submit that not only do the references fail to teach or suggest the limitation, there is no motivation or suggestion to support the combination of the references.

It is well established that there are three basic criteria that must be met in making a prima facie case of obviousness. The first of those three criteria is that there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Consequently, in order for the claims to be properly rejected as obvious in view of the combination of references suggested by the Examiner (e.g., Picco, Grossman and/or Tsuria), the Examiner must provide some evidence of a suggestion or motivation supporting a modification or combination of the references. In the Office Action, and again in the Answer to Appellants' Appeal Brief, the only evidence of a suggestion or motivation to combine that the Examiner has provided is the following passage from Picco:

> Thus, the broadcaster can segment their viewers and the advertisers benefit since they are able to more effectively reach viewers who are more likely to be interested in their product often at a lower total cost since the advertiser does not have to purchase the rights to advertise in the entire market. (Picco 2:62-67).

Appellants submit that the above passage does not provide a suggestion or motivation to combine the references. The above passage from Picco refers to a ***purpose*** or ***result*** of the invention described in Picco. That is, reaching potentially interested viewers at a lower cost is a purpose for, or result of, delivering a data stream of localized content to a set top box and then inserting the localized content into a programming data stream. However, the above passage from Picco does not provide any suggestion or motivation to combine Picco with Grossman and/or Tsuria.

Furthermore, the Examiner has provided no explanation or reasoning as to how or why the above passage would suggest or motivate one skilled in the art to combine the references, or modify a reference in the manner proposed by the Examiner. With respect to the suggestion or motivation to combine references, in the Answer to Appellants' Appeal Brief, the Examiner states:

> The examiner respectfully submits that given the Grossman and Picco et al. references, the references would have suggested to one of ordinary skill in the art to modify Grossman's advertisements with Picco's targeted advertisements for the purpose of allowing advertisers to be able to more effectively reach viewers who are most likely to be interested in their products and often at lower total cost since the advertiser does not have to purchase the rights to advertise in the entire market (Picco 2:62-67). (Examiner's Answer, Page 5).

Appellants submit that not only does the cited passage from Picco fail to provide any suggestion or motivation for the combination, the Examiner has failed to provide any reasoning as to how the proffered evidence suggests or provides motivation for the combination.

Finally, Applicants submit the Examiner is using hindsight analysis and improperly characterizing the nature of the problem addressed in Picco by its result or purpose. "Although the suggestion to combine references may flow from the nature of the problem, '[d]efining the problem in terms of its solution reveals improper hindsight in the selection of the prior art relevant to obviousness.'" (internal citation omitted) (quoting Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH, 139 F.3d 877, 881 (Fed. Cir. 1998))); In re Beattie, 974 F.2d 1309, 1312 (Fed. Cir. 1992). Here, the Examiner is attempting to define the problem addressed in Picco by its result or purpose (e.g., reaching potentially interested viewers at a lower cost) to support a combination of Picco with Grossman or Tsuria. However, in reality, the nature of the problems addressed by Picco and Grossman and/or Tsuria are very different.

Picco is primarily concerned with the technical problem of how to insert a data stream of local content into a programming data stream at a set top box. For example, Picco describes how to identify a local content programming space within a programming data stream, and how to insert the local content data stream into the programming data stream. Grossman and Tsuria are primarily concerned with

displaying content during a time period between channel changes. Accordingly, Grossman and Tsuria describe how to detect channel changing events, and how to display content during the interval between a channel changing event. Although the purpose or result (e.g., reaching potentially interested viewers at a lower cost) of the inventions described by Picco, Grossman and Tsuria may be similar, the manner by which the results are achieved is very different – so much so, that Appellants submit that the Picco reference does not explicitly or implicitly provide a suggestion or motivation to combine or modify the Grossman and/or Tsuria references. Hence, claims 23 and 31, and their respective dependent claims are patentable over this combination of references.

C. There is no suggestion or motivation to combine Howe, directed at interactive sessions relating to the content of television broadcasts, with Grossman/Tsuria directed at displaying visual images in response to a channel change.

The Examiner has proposed that the combination of Howe with Grossman and/or Tsuria teaches or suggests ***a user initiating an interactive transaction session with a remote host by selecting an interactive element associated with the first one of the information elements***, as is claimed in claims 23 and 31. Appellants submit that not only do the references fail to teach or suggest the limitation, there is no motivation or suggestion to support the combination of the references.

As stated above, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. When the suggestion or motivation is attributed to the references, the suggestion or motivation may be found expressly stated in a reference, or it may be implied from the teachings of the references. When the suggestion or motivation is attributed to the knowledge generally available to one skilled in the art, some evidence of such knowledge must be provided. In the present case, the Examiner has proposed that the suggestion or motivation to combine is found in the knowledge generally available to one of ordinary skill in the art. For example, on page 6 of the Examiner's Answer, the Examiner states, "[i]n this case, in the knowledge generally available to one of ordinary skill in the art." However, the Examiner has offered no evidence of such knowledge other than the references themselves. Accordingly, Appellants submit that the Examiner has not provided any evidence in support of a suggestion or motivation for the combination of Howe with Grossman and/or Tsuria. To the extent the Examiner is offering as evidence the references themselves, Appellants submit that the references do not provide any suggestion or motivation in support of a combination of the references.

D. The rejection of claims 5, 32, and 33 is erroneous, because there is no suggestion or motivation to combine Nathan, directed at recording and reproduction of audiovisual information, with Grossman/Tsuria directed at displaying visual images in response to a channel change.

Again, the Examiner has provided no evidence to support the combination of Nathan with Grossman and/or Tsuria. As offered by the Examiner, the suggestion or motivation to combine Nathan

with Grossman and/or Tsuria is based entirely on a hindsight view of the presently claimed invention. Hence, the combination of references is not supported and is improper.

E. Claim 28 is Patentable over the combination of Grossman, Picco, Kitsukawa, and Tsuria.

In the Office Action and again in the Answer to Appellants' Appeal Brief, the Examiner states, "it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Grossman et al. and Howe et al. interchannel interactive advertising with the Kitsukawa et al. electronic transaction over the Internet for the purpose of providing the user the capability of purchasing an advertised product immediately and to increase sales of an advertised product or server over a the Internet, a well known and readily accessible network for facilitating communication of data." The Examiner provides no evidence of any suggestion or motivation in support of the combination. As offered by the Examiner, the suggestion or motivation to combine Kitsukawa with Grossman and/or Tsuria is based entirely on a hindsight view of the presently claimed invention. Hence, the combination of references is not supported and is improper.

For at least the foregoing reasons, the claims are patentable over the references cited in the Office Action. If there are any additional fees due in connection with this communication, please charge our deposit account no. 19-3140.

Respectfully submitted,

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Dated: October 30, 2006

s/Nathan Elder/

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APPENDIX A: Claims on Appeal

(37 C.F.R. § 41.37(c)(1)(viii))

The claims on appeal read as follows:

1. (Cancelled).

2. (Previously Presented) The method of claim 23, wherein downloading the selected data sets comprises storing the selected data sets in a buffer of a digital set top box.

3. (Previously Presented) The method of claim 2, wherein initiation of the first switching event comprises receiving at the digital set top box a signal from a television remote control device to switch channels.

4. (Cancelled)

5. (Previously Presented) The method of claim 23, wherein downloading the selected data sets comprises storing those of the selected data sets associated with the first information element in a buffer of a digital set top box and storing others of the selected data sets associated with others of the information elements in a memory of the digital set top box, wherein corresponding ones of the others of the selected data sets stored in the memory of the digital set top box replace those of the selected data sets in the buffer of the digital set top box once the first information element is displayed.

6. (Cancelled)

7. (Previously Presented) The method of claim 23, wherein the first information element comprises data associated with the data stream information from the server.

8. (Previously Presented) The method of claim 23, wherein the first information element comprises advertising data selected in accordance with the user profile information.

9 - 22. (Cancelled)

23. (Currently Amended) A method, comprising:

periodically downloading from a server selected data sets according to user profile information, the selected data sets representing information elements for display to a user during switching events;

displaying a first one of the information elements in response to initiation of a first switching event, the first switching event being characterized by unavailability of information from the server for display; and

discontinuing the display of the first one of the information elements and displaying the data stream information from the server when it becomes available for such display, unless the user has initiated an interactive transaction session with a remote host by selecting an interactive element associated with the first one of the information elements in which case displaying the data stream information from the server is delayed until termination of the interactive transaction session or expiration of a predetermined period of inactivity by the user.

24. (Previously Presented) The method of claim 23, wherein downloading the selected data sets comprises storing the selected data sets in a digital set top box in which the user profile information is stored.

25. (Previously Presented) The method of claim 23, wherein the user profile information is stored at the server.

26. (Previously Presented) The method of claim 23, wherein the user profile information is stored in a data source accessible by the server.

27. (Previously Presented) The method of claim 26, wherein the data stream information is also stored in the data source.

28. (Previously Presented) The method of claim 23, wherein the remote host comprises an Internet host and the interactive transaction session comprises an electronic shopping transaction.

29. (Previously Presented) The method of claim 23, wherein the user profile information is based on one or more of: the user's television viewing habits, the user's purchasing habits, and the user's use of one or more television services.

30. (Previously Presented) The method of claim 23, wherein the information elements comprise one or more of: advertisement, information regarding the data stream information, information regarding a television program, information regarding a television channel, personal information regarding the user, a segment of the data stream information, or local or regional information.

31. (Currently Amended) A system, comprising:

a server configured to provide a data stream transmission; and

a digital set top box configured to (i) periodically download from the server selected data sets according to user profile information, the selected data sets being included within the data stream and representing information elements for display to a user during switching events; (ii) display a first one of the information elements in response to initiation of a first switching event, the first switching event being

characterized by unavailability of information from the server for display; and (iii) discontinue the display of the first one of the information elements and displaying the data stream information from the server when it becomes available for such display, unless the user has initiated an interactive transaction session with a remote host by selecting an interactive element associated with the first one of the information elements in which case displaying the data stream information from the server is delayed until termination of the interactive transaction session or expiration of a predetermined period of inactivity by the user.

32. (Previously Presented) The system of claim 31, wherein the digital set top box includes both a buffer and a memory and is configured to store those of the selected data sets representing a first one of the information elements in the buffer and others of the selected data sets representing other information elements in the memory.

33. (Previously Presented) The system of claim 32, wherein the digital set top box is further configured to replace those of the selected data sets representing the first one of the information elements in the buffer with at least some of the others of the selected data sets representing other information elements in the memory after displaying the first information element.

34. (Previously Presented) The system of claim 31, wherein the digital set top box includes an interface configured to receive signals from a remote control unit, the signal representing initiation of the first switching event, which corresponds to changing channels.

35. (Previously Presented) The system of claim 31, wherein the information elements comprise one or more of: advertisement, information regarding the data stream information, information regarding a television program, information regarding a television channel, personal information regarding the user, a segment of the data stream information, or local or regional information.

36. (Previously Presented) The system of claim 31, wherein the digital set top box is further configured to store the user profile information.

37. (Previously Presented) The system of claim 31, wherein the server is further configured to store the user profile information.

38. (Previously Presented) The system of claim 31, further comprising a data store unit accessible by the server and configured to store the user profile information.

39. (Previously Presented) The system of claim 38, wherein the data store unit is further configured to store the data stream information.

APPENDIX B: Related Proceedings
(37 C.F.R. § 41.37(c)(1)(x))

This application was previously the subject of an appeal (Notice of Appeal filed Oct. 14, 2003), which was dismissed prior to decision as a result of issuance of an Office Action dated March 29, 2004. No Decision on Appeal was ever issued.

APPENDIX C: Other Evidence

(37 C.F.R. § 41.37(c)(1)(ix))

There is no evidence submitted under 37 CFR 1.130, 1.131 or 1.132, or other evidence entered by the examiner and relied upon by the appellant in this appeal.